

# The Citrus Industry

## FLORIDA'S EXCLUSIVE CITRUS MAGAZINE...

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## A Jam In British Marmalade...

As one official puts it, "An Englishman must have his marmalade for breakfast or he is in no condition to be bombed." This may be a slight exaggeration, but the lack of customary foods undoubtedly hurts morale — as our own soldiers and workers would find if they had to start a day without coffee as an eye opener. Like coffee here, marmalade is a staple in Great Britain, and the British government has tried to maintain ample supplies even under wartime conditions.

It has proved to be something of a job, and one big difficulty has been the British liking for bitter materials. Prior to the outbreak of war this flavor was obtained by making the product from bitter oranges, grown largely in Spain. Great Britain has continued to import some Spanish oranges, but the supply has been far short of requirements.

So it looked for a time as if there were only two alternatives — no marmalade at all, or, in British opinion, an unsatisfactory product from American sweet oranges. Then one expert began to do some thinking and his thoughts ran along these lines: "The United States produces a lot of oranges — sweet oranges that the British do not consider suitable for marmalade. But that country also produces grapefruit, the peel of which is very bitter. Perhaps, by combining the two fruits in some manner, it might be possible to turn out a fair marmalade — good enough for the duration, anyway." This scheme was tried experimentally — and it worked — but putting it into practical operation in the United States was something else.

BY

**ROBERT C. EVANS**

in "Marketing Activities,"  
Agricultural Marketing  
Administration

In the first place, there was the matter of processing. The pulp — 56 million pounds of it — had to be processed in such a way as to retain a maximum amount of pectin, the substance that makes the marmalade "jell." Though several producers of sweet orange pulp are anxious to

cooperate in filling the order, only one firm was familiar with the special process and the equipment needed to do the job properly — and experience was limited largely to the bitter-type orange, a few of which are grown in Florida and California. But the assistance this firm was able to provide two citrus chemists from the Department of Agriculture was invaluable. After much cooperative experimental work, a practical method for processing sweet orange and grapefruit pulp was devised and specifications were prepared late in November 1941.

### Working Against Time

Everybody concerned was working against time. It was realized that 56 million pounds of pulp was a big order, that special equipment had to be installed, and that grapefruit is not available in Florida or Texas in any quantity after May or June. But it was December before bids were requested and contracts awarded to five processors — three in Florida, one in Maryland, and one in New Jersey. To quote Snuffy Smith, of comic strip fame, "time was awastin".

Then, as a kind of last straw, the problem of how to slice the peel properly had to be solved. To make good marmalade pulp, the processors had to cut the peel a sixteenth of an inch or less in thickness. But the only machines able to do

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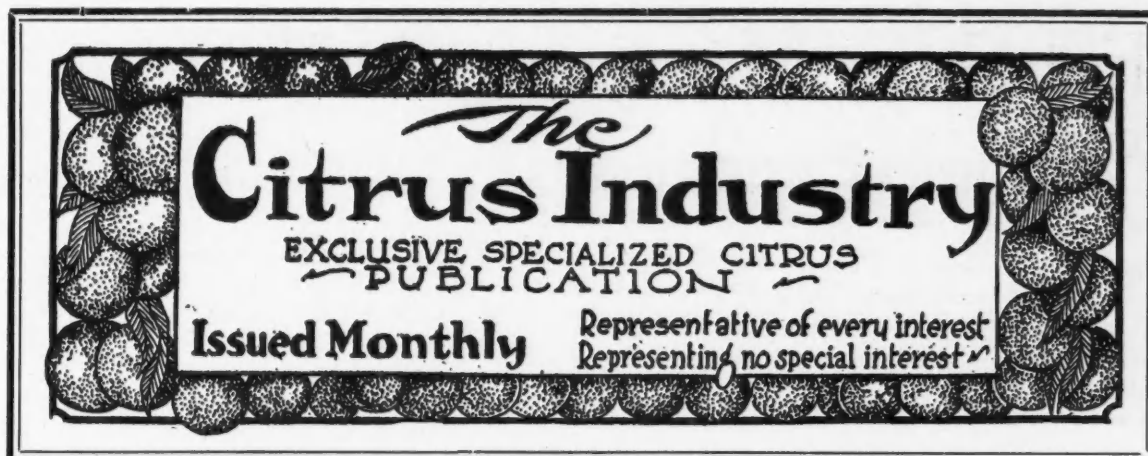
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## ARMOUR FERTILIZER WORKS

Jacksonville, Florida



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# Use Of Pest Control Measures In Wartime....

BY W. B. TISDALE

Several weeks ago I discussed methods for the economical use of fungicides in war time. Since that time more restrictions have been placed on some of the materials used in fungicides, and insecticides are even more seriously affected. Inasmuch as plant diseases and insects are often referred to jointly as crop pests, I will discuss fungicides and insecticides under the title "Use of Pest Control Materials in War Time."

Although copper, mercury, formaldehyde, and arsenicals are still available in reasonable amounts, they will probably become more difficult to obtain at any price. Rotenone can be obtained only on a special permit, and supplies of pyrethrum have been frozen. Sodium cyanide, used for fumigation of buildings and of the soil for nematodes and insects, is no longer available. To produce the desired quantity and quality of important food crops, however, it is necessary to use fungicides and insecticides to protect them from fungi and insect pests.

Our problem, then, is to do the best possible job of pest control with a minimum of vital materials. This will necessitate some compromise and changes in the control programs for effecting a more economical use of a limited supply of pest control materials. Some of the most important changes are: to limit their use

to pests that can be controlled, to treat important crops that are most likely to need protection, to improve their efficiency through better distribution over the plants, or coverage, and to give careful attention to the amounts used and to the time of their application. It should be feasible to use these means or any others which may effect a saving of materials and still produce an acceptable quality of food.

First of all, accurate diagnosis of a plant pest should precede treatment. Too often, mistakes in diagnosis are made and material is applied where no treatment would be of no value or when another kind of treatment is needed. For example, bean leaves may turn "rusty" from any one of several causes and the tendency is to spray or dust with copper without determining the cause of the trouble. If the trouble is a true test, sulphur is the correct fungicide to use and copper would be of no value. In case of insects, a stomach poison is sometimes erroneously used where a contact poison is needed.

Various bulletins are available to help growers in diagnosing plant diseases and insects pests. We of the Extension Service and Experiment Stations are glad to help when specimens are sent to us. The specimens should represent various stages of the trouble and the whole plants permit

mailing conveniently. They should be collected just before mailing, wrapped with waxed paper or moist paper, and packed so they will not be crushed and will not decay in transit. There should be an accompanying letter giving information on prevalence of the trouble in the field, the fertilizer practices, rotation system used, weather conditions, and any other information that may seem pertinent to the trouble.

In some cases it is possible to sacrifice some of the quality and thus save materials for increasing quantity production of other crops. Citrus fruits with some melanose and thrips injury are acceptable, even though the grade be lowered. On the other hand, broccoli, cabbage, or mustard infested with aphids or worms are not acceptable to the consumer. It is probably even more advisable to discontinue using the materials on non-agricultural or unimportant crops and apply them on essential crops where they will do the most good.

In the past, an "all-purpose" dust or spray has been used by many growers. Such a mixture contains both a fungicide and an insecticide, and its use has avoided the necessity of selecting the proper material for each pest. This practice was wasteful even in time of plenty and certainly should be discontinued now. When insects only are attacking the

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# Fall Grove Management Under Wartime Conditions

BY R. E. NORRIS  
LAKE COUNTY AGRICULTURAL  
AGENT

Grove management operations, particularly as regards fertilization practices, will very likely undergo considerable modification before the pre-war routine can be resumed. One of the shortages which will likely affect the citrus growers of Florida in varying degrees is the limited supplies of chemical nitrogen now available in this country for fertilizer use. The first real pinch resulting from the shortage of the chemical forms of nitrogen will be felt this fall and next spring, because, although supplies of chemical nitrogen for use as fertilizer in 1942-43 can only be estimated approximately at this time, the authorities tell us that the present prospect is for less chemical nitrogen to be available in 1942-43 than was used during 1941-42.

The help in meeting the situation resulting from restricted quantities of chemical nitrogen the War Production Board has ordered that the number of fertilizer grades used in Florida be reduced to 33. It is believed that this number will satisfactorily meet the requirements of citrus, vegetables, pastures, general crops, and the other agricultural needs of the state.

As is always the case, it is going to be a good policy for growers to use their fertilizers as wisely and efficiently as possible and it follows that those factors on which fertilizer efficiency is dependent should be checked more closely than ever by citrus producers. The supplies of organic forms of nitrogen as well as supplies of phosphorus and potash will be ample to meet the requirements of the fertilizer manufacturers in supplying growers this fall. No critical shortage of these last named materials is in sight right now, we are told.

Some of the more important factors affecting the efficiency of fertilizer materials in groves are the soil reaction (pH), should be about 6.9. It is at this level that fertilizers are most efficient. When the soil becomes more acid than about 6.9, plant foods are rapidly leached from the soil and when the soil reaction goes much above 6.0, many of the

plant food elements are rendered insoluble and thereby become unavailable for tree use. Right now is a good time to have the soil reaction in the grove checked. If the results of the test indicate that it is much below 6.0 (say, below 5.5) an application of some liming material is in order. Dolomitic limestone is most widely used for this purpose because in addition to its soil sweetening properties, it also furnishes magnesium, an element needed in large quantities in citrus groves. The usual rate of application is 800 to 1000 pounds, applied broadcast, to the acre. Dolomite may be applied at any convenient time.

The old, old story of supplying organic matter to citrus grove soils in Florida is just as important now as ever. Organic matter has a number of functions in the soil. Among these functions are increasing the water-holding capacity of the soil and increasing the efficiency of fertilizer materials applied by supplying humus which acts as a "sponge" and "soaks-up" plant food materials, thereby delaying their rate of leaching from the soil. Organic matter feeds the soil bacteria which make some of the plant foods available for the tree's use.

Organic matter is furnished to the soil largely through the production of cover crops, although the use of mulching materials and forms of organic nitrogen applied in fertilizers also contribute to the supply of organic matter in the grove. Cover crops and mulching material, in addition to supplying organic matter, also shade the ground and tend to keep the soil temperature more nearly optimum for tree root development during the hot summer months.

In tests conducted several years ago at the Citrus Experiment Station it was found that Natal grass returned about 3400 pounds of air-dried top growth per acre. *Crotalaria striata* returned slightly over 4900 pounds of air-dried top growth. On the basis of 2.1 percent nitrogen (the nitrogen content of *crotalaria striata*) the *Crotalaria* yielded 108 pounds of nitrogen to the acre, as compared with 36 pounds returned by Natal grass.

During times when some forms of

nitrogen are not available and other forms are relatively expensive it would appear desirable to make every effort to produce *Crotalaria* or some other leguminous cover crop to help in furnishing the nitrogen requirements of the trees.

Unfortunately, growers have not been uniformly successful in producing leguminous cover crops in their groves. This year has been very satisfactory for the production of legumes generally and good crops of *Crotalaria*, beggarweed, and other legumes may be frequently seen in groves throughout the belt. This is not generally the case in most years and, rather than risk not having a cover crop at all, growers have encouraged the growth of native grasses. These do not furnish much nitrogen, but they do have most of the other properties of a good cover crop. Indeed, many growers have discontinued any attempt to produce legumes in their groves and have encouraged the production of Natal grass and other native grasses in their groves.

An effort is being made by Experiment Station investigators to find the citrus growers a more dependable legume than they now have. Trial plantings of *Indigofera hirsuta* on a very limited scale have been made in Lake and other counties this year and observation of the Lake county tests indicates very encouraging results, though no definite conclusions one way or the other can be drawn from only one year's trial.

While discussing leguminous cover crops, and because there are a number of good ones around in groves this year, it might well to remind growers of the possibility of an infestation of pumpkin bugs which may move in on a crop of beggarweed, cowpeas, or *crotalaria* during the fall months. The prevention and control of this insect is explained in a very clear and practical way by Professor J. R. Watson in Extension Bulletin Number 88, copies of which are available at your county agent's office or by writing to the Florida Agricultural Extension Service, Gainesville.

Moisture supply is an important factor in fertilizer efficiency and in keeping fruit and trees in good condition. After the summer rains are

over, we sometimes experience long periods of dry weather. When irrigation facilities are available, moisture should be applied to the soil to protect both the trees and crop before the leaves wilt and the fruit becomes soft. Many of our fall fertilizers carry a large part of their nitrogen content in organic forms. This will likely be more true than ever this fall, when the organic forms are more easily secured than the chemical forms. Organic nitrogen applied on excessively dry soil, even though it is disked in, will not become available for the tree's use until moisture is present. If the dry spell lasts over a considerable period, the trees may not receive sufficient supplies of plant food to go into the cold weather in a healthy condition. For that reason it is desirable to apply irrigation water to render the plant foods available if sufficient moisture from rain is not present.

Time of applying the fall application of fertilizer varies with the individual grower. Fertilizing young trees will begin in September and in most instances will be completed by the end of October. Fertilizing bearing trees depends somewhat on the variety, moisture conditions, and the type of soil management program being followed in the individual grove. The majority of the fall applications on bearing trees is made in late October and November.

While there will not be as many fertilizer grades and formulas to select from as there has been in the past, the indications are at this time that the selection of available grades and formulas will be sufficiently wide to meet grove requirements.

Fires cause considerable damage in Florida citrus groves every year. This year the danger from fire is even more serious than usual because not only are trees damaged and much of the crop ruined when fires burn through groves, but the soil is depleted by the destruction of organic matter and in cases where buildings are involved serious loss may result. It should be remembered that as long as the war lasts, buildings will be hard to replace. All growers, for their own protection, should see to it that wide fire guards are plowed around their groves. This should be done just before the end of the rainy season. Cover crops in the grove should be thoroughly disked or plowed into the soil just as soon as they dry out sufficiently to create a fire hazard.

Late infestations of rust mites

may appear in the grove during the fall months. Growers should keep on the lookout for them and be pre-

pared to dust or spray if an infestation appears to warrant such action.

## Control Of Shade Tree Insects

J. R. WATSON, ENTOMOLOGIST  
FLORIDA EXPERIMENT STATION

Shade trees, especially oaks, on our lawns and along our streets are apt to be attacked by several kinds of borers. Some of these, like the pecans, makes good-sized holes — as big as a small lead-pencil, directly into the center of a health living tree where they work up and down, doing a great deal of damage. These borers are rather easy to control. With a medicine dropper squirt into the hole a few drops of carbon bisulfide, and immediately stop up the entrance with moist clay, gum, or putty. Or one may dip a little cotton into the carbon bisulfide and push this up into the hole. Sometimes a wide headed nail driven into the burrow will dam the flow of sap and drown the borer.

Another type of borers, known as the flat-headed borers, work just under the bark of the tree, and may work all the way around the trunk of a small tree, thus girdling it. These borers are particularly apt to attack a tree which has recently been transplanted or one whose bark is unduly exposed to the sun and suffers from sun-scald. These flat-headed borers like the round-headed borers are the larvae of beetles. The best way to handle them is to cut out the borers with a knife, taking pains not to cut cross-wise of the living bark but to make such incisions as are necessary parallel with the trunk of the tree. When trees whose natural habitat is in the shade of other trees, like holly or dogwood, are transplanted into an open situation where they are fully exposed to the sun, their bark is apt to suffer from sun scald and then this borer.

A third type of borer, and perhaps the most common of all, makes very small holes in the bark, which look as though the bark had been peppered with buck-shot. For this reason they are called "shot-hole" borers. Usually when a tree has been invaded by these borers it is a very poor life insurance risk. Sometimes, however, if the injury can be discovered in the early stages of the invasion, whitewash on the trunk and larger limbs will save the tree. Make the whitewash quite liquid so that

it will fill up all the cracks and crevices of the bark. To make it stick better add a handful of salt to each three gallons of the whitewash. These borers, like the flat-headed borers, will not ordinarily attack a healthy tree. The flow of sap from such a tree will drown them in their burrows, so the most important thing of all in combatting the borers is to keep the trees in a healthy growth condition.

Trees planted along our streets and in our yards are usually under unnatural conditions. Sidewalks, pavements, and the foundations of houses interfere with the proper development of their roots, and furthermore the leaves are usually raked up and carried away or burned

Leaves are the natural fertilizer of the tree, and also act as a mulch to keep the ground from drying out excessively during dry periods, so that a tree under these conditions needs extra care. To compensate for this loss of fertilizer, commercial fertilizer should be added from time to time, and the trees should be watered during dry periods such as we experienced during April and early May. Another important measure is to promptly cut down any trees which these borers have killed, or one that is evidently going to die. This will diminish the number of borers in the neighborhood which may attack any other tree which may not be perfectly healthy. Even a healthy tree, if subjected to too frequent attacks of these borers, due to great abundance of them in the neighborhood, may finally have its vitality so lowered as to succumb to their attacks, even though the first invaders were drowned by the trees' sap. This applies equally well to pine trees as to deciduous ones. Any pine tree which is dead or evidently dying, whether from causes just enumerated or from lightning, or other causes, should be promptly cut down and cut up into fire wood. If the wood is cut up into pieces of stove wood size and piled out in the sun it will dry out so promptly that these borers will not long find conditions favorable for their development, but if allowed to

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# The Citrus Industry

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## HEAVY SHIPMENTS OF CITRUS PRODUCTS TO ALLIED NATIONS

Few people perhaps, even among the producers, are aware of the vast amount of food and food products being shipped from the United States to our allies in the war. During the month of July, the last for which official figures are available, such shipments of food products reached the grand total of 600,000,000 pounds. That is 20,000,000 pounds or 10,000 tons of food products for each day of the month. That is a very sizeable contribution to the war effort.

From April 29, 1941, to August 1, 1942, citrus shipments included citrus pulp, 17,082,468 pounds; concentrated orange juice, 12,408,763 pounds (992,701 gallons); canned grapefruit, 5,399,970 pounds; canned orange juice, 480,830 pounds; orange marmalade, 256,466 pounds; concentrated lemon juice, 1,292,600 pounds; citrus oil, 8,016 pounds. This represents 36,929,113 pounds of processed citrus sent to our allies during the period. When converted into raw material, it represents several million boxes of fresh fruit produced by American citrus growers to conserve the health of our fighting allies.

According to the Agricultural Marketing Administration, the demands of our allies are constantly increasing and the outlook is that increased shipments may be anticipated.

## NORMAL CITRUS CROP ANTICIPATED

While there has been no official government estimate of the Florida citrus yield for the season just about to open, and while none will be made until about October 10, the general opinion seems to be that a normal crop of about 50,000,000 boxes of oranges, grapefruit and tangerines may be expected.

Where there have been ample rains, or where irrigation has been applied, a very satisfactory yield is anticipated. Where the rainfall has been deficient and in the absence of irrigation, the yield will be below normal, but on the whole normal production may be anticipated.

Isolated shipments of early grapefruit are now going forward, but shipments in any quantity will not, or should not, be made before the middle of October or early in November.

Growers are confronted with two problems of vital importance—a shortage of labor and congested shipping conditions. Of these, the labor problem is probably the most aggravated.

Experienced "spot" pickers are scarce and unless these can be supplemented from the ranks of general labor, the problem will be serious. Since there is a shortage of general labor, the prospect of recruiting "spot" pickers from the ranks is not at present too promising. State and federal authorities are working on the problem and it may be solved.

The transportation problem is not at present so serious, and with the government anxious to secure liberal distribution of citrus fruits to armed forces and war workers, it is believed that this problem will be handled without serious interruption or inconvenience.

The quality of the fruit is excellent and sizes are running well to consumer demands.

It is possible, even probable, that citrus growers may face federal control of maximum prices, under bills pending in congress to control wages and farm prices. Even so, the present outlook is for a favorable season for the grower who has produced good fruit and who sees that his fruit is marketed in an orderly manner.

## CITRUS JUICES DIRECT TO CAMPS

John Heid, Senior Chemist of the United States Citrus Products Station at Winter Haven, is out with a suggestion which appeals to us as having much merit. He suggests the development of a direct delivery system of citrus juices to Army and Navy bases and camps in the state.

Mr. Heid suggests that the fruit could be extracted in the canneries from pre-chilled fruit each morning and delivered to the camps in large containers, much as milk deliveries are now made. These containers could be returned easily and quickly and used repeatedly. This arrangement would provide excellent fresh juices so much needed by the men in camp at a reasonable price and provide an excellent market for much fruit not available for shipment to Northern markets.

Since the Army, Navy and Federal authorities are all anxious to provide citrus fruits and juices to the men in the armed forces, there should be little difficulty in securing transportation facilities for the handling of the product thus prepared.

## PREPARING OFFICIAL ESTIMATE

W. F. Callender and J. C. Townsend, Jr., of the Federal crop reporting service for Florida, are now busily engaged on the work of preparing the first official estimate of the Florida citrus crop, to be issued about Oct. 10.

More than 20,000 questionnaires have been sent out to citrus and vegetable growers of Florida, and field surveys are being made to supplement these questionnaires.

As soon as this work is completed and the data consolidated, the reports will be submitted to Washington and the preliminary estimates will be made public.

Citrus concentrates will help our fighting men afield where shipments of fresh fruits may be restricted.



# USE OF PEST CONTROL MEASURES IN WARTIME (Continued from page 3)

crop, a fungicide in the "all-purpose" dust or spray adds nothing to the effectiveness of the insecticide unless, like bordeaux, it serves as a spreader. If a spreader is needed for the insecticide, a cheaper one than bordeaux may be had.

Since pest control materials are used as a form of insurance, naturally they must be applied before the damage is done. To simplify the matter for the grower, schedules of applications, such as once a week, have been worked out to afford a maximum protection. This was done because of uncertainty in weather conditions and inability of many growers to diagnose correctly the causes of troubles in their early stages of development. Such a schedule can be wasteful, and it can be changed with a saving of materials, provided growers will carefully observe the plants and weather conditions.

Leaf diseases do not develop much in dry weather and during such periods frequent treatments are unnecessary. On the other hand, certain insects, such as aphids, thrips, and red spiders may be more troublesome during dry weather. Moreover, frequent applications of bordeaux mixture to potatoes, tomatoes, and several other crops during dry weather reduce the yield if no pests are present. The same is true of arsenicals used for insects. Under such conditions, material can be saved by waiting until a few disease spots or insects appear before applying the treatment, so that little or no benefit is derived and, as a result, they waste much or all of the material they apply. Often the interval between treatments can be extended without reducing control seriously. This is especially true when the weather is dry or cool and the plants are growing slowly. Appreciable savings can be effected by carefully watching the plants and weather, and applying the treatment when conditions indicate a need for it.

For greatest protection, pest control materials are applied to plants to produce a layer over all the foliage so that no pest arriving afterward can attack the foliage without being killed. Incomplete coverage gives poor or no protection and the materials applied are largely wasted. Therefore, it is important to apply the materials in such manner that they produce a thin, uniform cover on all above-ground parts of the

plants without wastage. A comparatively large nozzle opening produces a coarser spray which reaches and covers the inner leaves better than fine nozzle openings producing a "mist." The larger nozzles apply more gallons per acre, but this effect can be offset by reducing the concentration of the spray material. Better protection is obtained by covering all parts of the leaves with a dilute material than by covering only a part of the foliage with a more concentrated one.

Coverage and adhesiveness of the pest control material can be further improved by adding a good spreading and sticking agent, when one is not already included. Much dust material is wasted by attempt-

ing to apply it when a wind is blowing, when the plants are too dry for the dusts to stick, and through the use of poor machinery. If weather conditions are not favorable, dusting should be postponed. The right kind of machinery should be used and it must be kept in good repair to do a thorough job.

Although much of the shortage of some pest control materials can be overcome by more efficient use of them it is doubtful whether all of it can be absorbed in this manner. There are certain organic materials which may be used as substitutes. The number of these that has shown promise is not great, but enough information is available to justify use

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## NACO Serves!

**W**ITHIN the limits permitted by our Government as to our staff, NACO will continue to contact growers and render valuable and unselfish advice to Florida's Citrus and Vegetable Growers in matters of cultural practices, fertilizer requirements and insect and disease control.



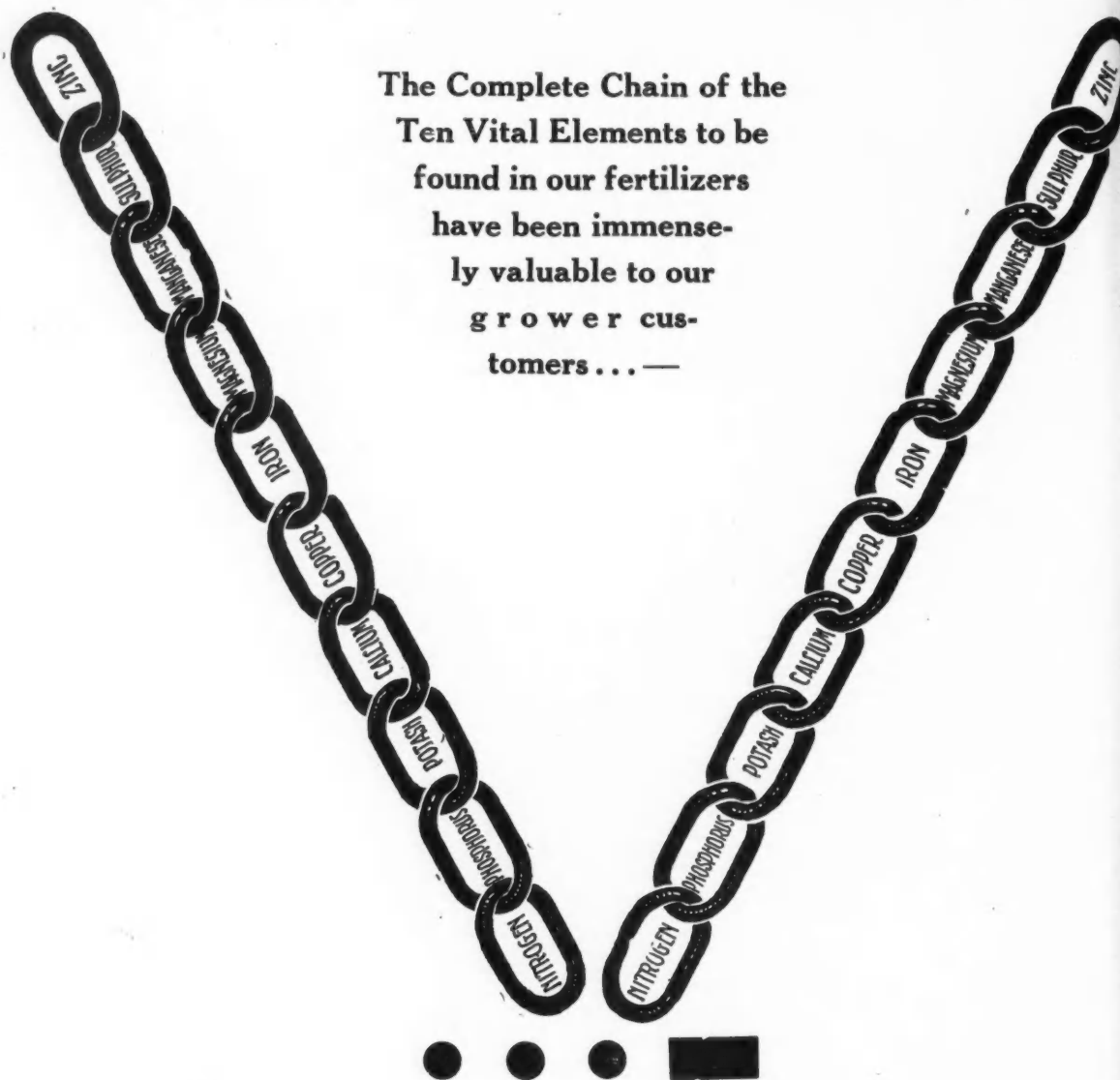
NACO manufactures in its new and modern plant in Florida a most adequate group of insecticidal and fungicidal Dusts for all Florida Truck and Citrus needs. The NACO Dust program is sufficiently elastic to fit any individual grower's needs.

Almost without exception all the analyses or grades of fertilizer now permitted to be offered under present government regulations, fit into the NACO program — and within reasonable limits we will be able to supply our customers with the same fine quality of mixed fertilizers as we have in the past.

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found in our fertilizers  
have been immense-  
ly valuable to our  
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Any Florida grower can picture what would happen to his crops of vegetables or fruit if he were to plant the seed or trees and then let them shift for themselves—the production would be decidedly inferior both in Quantity and Quality . . . — But when good seed and sound tree stock are aided by Superior's Extra Value Brands of Fertilizer and protected against the ravages of insects by Superior's Extra Value Brand of Insecticides crop results are highly satisfying.

**CITRUS PRICES SHOULD BE GOOD DURING THE COMING SEASON  
— TWO FACTORS IN BUILDING BIGGER AND BETTER CROPS**

**WILL BE**

## **SUPERIOR'S EXTRA VALUE FERTILIZERS**

No one regrets more than we do the fact that shortages of materials will prevent our doing much more than take care of our regular customers this season . . . — But we do urge all growers to note the success which our users are having with the Extra Value Brands we furnish them . . . — And to plan to give these Superior Fertilizers an opportunity to demonstrate their unusual effectiveness on their own groves as soon as conditions return to normal . . . —

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—And Secure Maximum Efficiency With  
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**Our Extra Value Spray Oil. A Better Oil  
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**And Our Superior 99-1 Oil. A Better Tank  
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**Extra Value Wettable Sulphur, 97% Sulphur . . . —**

**Zinc-Co Wettable Sulphur, 80% Sulphur,  
1.75% Zinc, 3.75% Copper . . . —**

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1.75% Zinc . . . —**

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## A Rationing System For ....Farm Machinery

Secretary of Agriculture Claude R. Wickard recently announced a temporary order prohibiting the sale of new farm machinery and equipment, except as specified in a rationing system governing its release. The temporary order took effect September 17, 1942, and will be followed later by a permanent order governing the release of farm machinery in 1943.

The order outlines conditions under which farm machinery and equipment may be purchased, and sets up procedure and organization for rationing the available supply among farmers.

Authority to ration farm machinery and equipment was delegated to the Department of Agriculture by the Office of Price Administration in an order effective September 16. Previous to that, the War Production Board issued a directive authorizing OPA to ration farm machinery or redelegate the authority.

In commenting on the program for rationing farm machinery and equipment, Secretary Wickard said, "Our military requirements have made it necessary to reduce drastically the amount of steel and other metals which can be used for even the most essential civiliar requirements. About 75 percent of our present steel production is now going for direct war uses — to make the guns, planes, tanks, and ships our fighting forces need to help win the war on widely scattered battlefronts. The amount of materials which will be made available for manufacture of farm machinery and equipment in 1943 will provide much less machinery and equipment than will be needed.

In general, the farmer will be required to show that his present equipment is not adequate to handle his production, that he cannot meet his equipment needs by repairing existing equipment, by purchasing or renting used equipment, by custom work or other means. He must also show that failure to approve his application will result in a substantial reduction in production of commodities essential in the war effort, and that the machinery will give better than average service for similar equipment in the community.

Items in a second group, (Group B), include most other farm machinery and equipment not in the first group, and which may be sold upon

certification by the farmer to his dealer that the equipment is essential for current agricultural production needs.

Items in the third group include such items as some hand tools and the smaller horsedrawn equipment, which may be sold without restriction.

The temporary rationing plan does not apply to repair parts, and excludes such items as automobiles, trucks, tracklaying tractors, or equipment ordered by Governmental agencies.

Instructions for issuing applications for purchase certificates and other procedure have been sent to State and County USDA War Boards.

In cases where an applicant is denied a purchase certificate by the county rationing committee, provision is made for an appeal to the County Rationing Committee and from there to the State USDA War Board, and to the Secretary of Agriculture through the special War Board Assistant.

## State Seizes Ship- ment Uninspected AAA Fertilizer

The Florida Department of Agriculture recently seized four car loads of Federal AAA fertilizer shipped into Florida without passing state inspection and paying the state inspection fee of 25 cents per ton.

Two cars were seized in the railroad yards at Tallahassee and the others at Monticello on orders of Nathan Mayo, Commissioner of Agriculture, who charged that AAA officials had ignored the state's inspection laws. Both shipments, containing superphosphates, originated in Georgia.

Commissioner Mayo ordered seizure of any fertilizer shipped into the state or sold in this state on which the state inspection fee has not been paid. He notified Secretary Wickard of the U. S. Department of Agriculture of his seizure orders to Florida inspectors.

The legality of the action by Commissioner Mayo has been questioned by a Georgia shipper of the fertilizer and the matter will be threshed out in court at Gainesville under a re-

straining order secured by the shipper.

Comptroller Lee has refused to accept delivery of three tons of fertilizer on which the inspection fee had not been paid.

## Stern Measures Taken To Prevent Forest Fires

Stern measures are to be taken to prevent forest fires from occurring in the vicinity of military installations in Florida. State Forester H. J. Malsberger advises that the government regards the blackout of fires in these areas of sufficient importance that Congress has made a special appropriation for their control.

The areas to be designated and the protective measures are now being determined by the Florida Forest and Park Service in cooperation with the U. S. Forest Service and military officials. For military reasons, there will be no announcement of the location of the critical areas but a considerable portion of Florida's forest land is involved.

Malsberger points out that forest fires, in addition to destroying war materials, can hinder military operations by creating an atmospheric haze and low visibility which hamper artillery and avia-



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tion training programs. Forest fires along the coast also create a background of light against which ships at sea stand out as perfect targets for prowling submarines.

All of the present equipment and improvements of the Florida Forest and Park Service, including lookout towers, fire trucks, and the like, will be employed in this work and are to be supplemented by additional equipment and extra crews.

#### ECONOMIST FORESEES ENCOURAGING FUTURE FOR FLORIDA CITRUS

Florida citrus growers had the most profitable season during the past year since 1930, and possibly in history, according to R. H. Howard, economist with the State Agricultural Extension Service, who has summarized a large number of growers' records for several years.

His figures indicate that the average grover received \$95.37 per acre above operating costs for the past marketing season, an increase over the previous season of nearly \$44.40.

The relatively good income from citrus groves during the past year has enabled many growers to pay up back indebtedness incurred when prices and incomes were low.

#### USE OF PEST CONTROL MEASURES IN WARTIME (Continued from page 7)

of them for certain purposes. It is probably that further trials will broaden their field of usefulness. Tetramethyl thiuramdisulfide (Thiosan) and ferric diamethyl dithiocarbamate (Fermate) have shown promise on tomatoes for leaf diseases and the latter has been effective for the control of downy mildew of cabbage and tobacco. Thiosan and tetrachloro-para-benzoquinone (Spergon) can be used for seed treatments to replace copper and mercury and Spergon has proved effective for the control of downy mildew of cabbage. Thiosan also has proved to be a good substitute for mercury in preventing turf diseases.

For many insects, cryolite and other flourine compounds are satisfactory substitutes for the arsenicals. On the other hand, arsenicals can be substituted for rotenone under certain conditions. One wishing to kill nematodes in plant beds should use the steam or hot water methods described in Florida Station Bulletin No. 311. Brown sugar is no longer available for use in poison baits for thrips, but molasses will serve as a good substitute and honey is even better, although more expensive.

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# The LYONIZER

Department

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## Horticultural Hints

By J. H. Rickborn

The LYONIZER has been talking for the past several months about the important part that Florida has to play in supplying fresh fruits and vegetables to both the fighting forces and the home front during the winter months. We have always been confident that the growers would meet and even exceed, every demand made on them for the desired fresh fruits and vegetables. It is now evident that we are in position to supply ample amounts of our citrus fruits, and in covering the rich vegetable sections of the state it is also evident that we are going to be able to keep all tables well supplied with all varieties of fresh vegetables.

During the past two years it has been evident that the Florida citrus industry is considered a very worthy financial investment. Hundreds of acres of new groves have been set in all parts of the citrus belt, unkept groves have been put back into production, better care has been given the producing groves, and all this is a sure sign that citrus groves have been returning profits to the owner. During recent months we have heard some few alarmists cry that we were sure to have over production. **THIS WILL NEVER HAPPEN.** There are only a few small areas in this country that are climatically adapted to the production of citrus fruits, and with better distribution, more money to spend for products with the nutritional value of citrus fruits, and with new methods of marketing it occurs to us that we will never reach a saturation point in production.

This is a plea to both growers and shippers of Florida citrus fruits: For the financial good of every one connected with the citrus industry make every effort to place **ONLY EDIBLE FRUIT** on the market this fall. In other words if you don't eat the fruit yourself then regardless of maturity requirements leave the fruit on the tree a little longer.

Young trees should be worked out and fertilized at this time. Thorough cultivation of young trees is very important. Cover crops should be cut. Keep a care-

## Reports of Lyons Field Men . . .

### SOUTHWEST FLORIDA

F. W. (Felton) Scott

Growers have set a considerable part of their fall acreage and crops are looking good in spite of heavy rains and unusually warm weather. Manatee county in particular does not have their crops as far advanced as the Ruskin section but these plantings are looking well considering the weather. In the Sarasota section the planting of celery has been very much retarded because of the hot weather. In Hardee and DeSoto counties rainfall has been rather light during late summer and is a main contributing factor to the delayed maturity and small sizes of citrus fruits. There has been very little activity shown by fruit buyers in this section.

### NORTH CENTRAL FLORIDA

V. E. Bourland

We have been having plenty of rain in this territory and groves as a whole are looking good. The fruit is sizing up nicely and it now appears that we are going to have some very nice quality. Growers still busy with oil spray and also are having trouble in keeping rust mite under control. We have been working out all young trees and have given them application of fertilizer. Vegetable growers in this section are setting pepper, eggplant, cabbage and some tomatoes. The heavy rains that we have been having retarded to some extent vegetable crop plantings.

### WEST CENTRAL FLORIDA

E. A. (Mac) McCartney

Citrus trees in this section have certainly responded to the late summer rains and are showing an excellent growth on practically all

ful check for rust mites. It is well to begin thinking about getting rid of fire hazards around the grove. Pruning all dead wood from trees at this time will aid in controlling melanose next spring. Should the rains stop for the fall season it will pay to keep a close check on young trees to see that they have plenty of water. Consult with the Lyons Field Man for information regarding any problem that you might have. You will find him posted and glad to be of assistance.

varieties. Fruit sizes are good and growers in general are optimistic over their prospects. With the exception of Marsh seedless grapefruit and early oranges, which are light, this territory will have a very nice crop of fruit to place on the market. Vegetable growers are very much concerned over the shortage of labor and there may be a curtailment of plantings that will reduce the acreage as much as 40 percent of what was planted last season. Oil has been used quite generally in this section and it now appears that we have had a good kill of scale.

### HILLSBOROUGH AND PINELLAS COUNTIES

C. S. (Charlie) Little

Grapefruit is dropping badly in certain sections of Pinellas county and it is very difficult to explain as we have been having some very fine rains during the late summer. Fruit is sizing up quite well and we have as a whole, a nice crop of fruit as far as both quality and quantity are concerned. Growers are busy keeping rust mite under control. We had heavy infestations of scale in these counties but now have this insect under control through the general use of oil. As a rule we would consider this territory as of little importance in vegetable production, but at this time we find a great deal of activity being shown in growing vegetables both for home use and for commercial purposes.

### POLK AND HIGHLANDS COUNTIES

J. M. (Jim) Sample

We have been testing fruit all through this territory for the past two weeks and in many cases have been finding grapefruit that will pass the required maturity tests. We have an excellent crop of fruit in this section, both oranges and grapefruit, and without exception it is the finest quality that we have ever produced. Cover crops have been cut in most cases. There is considerable activity in new plantings. Many acres were planted this summer and another planting will be made in January. There have been a number of fruit sales made during the past few weeks and growers are feeling optimistic over their prospects for the season.

## Another Florida Grower Reports Success With Lyons Fertilizers



Pictured above is Mr. J. H. Dunne, of San Antonio, Florida

Mr. Dunne has one of the finest groves in the state and has used Lyons Fertilizers since the organization of our company. His groves have consistently produced heavy crops of fruit under the Lyons program and the quality of his crops brings him premium prices for his fruit. Mr. Dunne's high regard for Lyons Fertilizers is evident from the large tonnage of these products he has used during the past eighteen years. It goes without saying that the Lyons Fertilizer Company is proud to have an opportunity to play a part in Mr. Dunne's production problems.

## A JAM IN BRITISH MARMALADE

(Continued from front cover)

this operation on a volume basis were manufactured in Great Britain. The British government shipped several to the Department of Agriculture and there were anxious moments until they arrived in this country safely. But they did arrive — six of them — even though the last two were not received until March of this year.

As the slicing machines arrived, production gradually gained momentum. On April 1 approximately 18 million pounds of pulp, a third of the British order, had been processed. And by June 1 all of the pulp had been produced.

### Mass Production Methods Employed

American mass production methods are largely responsible for the good showing made in filling the British order. Like the airplane factories, the pulp processing plants have a precise way of carrying out each operation. Good grove run fruit, purchased by the Government, is scalded to loosen the peel and then run through a battery of revolving brushes to remove dirt and scale. The clean fruit is peeled while it moves along on belts, the unsuitable portions of the peel being discarded. The good peel is cooked and sliced.

The water in which the peel is cooked contains certain pectin and flavor elements, so it is strained and pumped into a large tank and used for cooking the peeled fruit. Live steam is used for heat and after the fruit is thoroughly disintegrated, usually in about 20 minutes, it is run through a machine that removes all seeds and heavy "rag."

The two products — the cooked peel and the cooked pulp, are brought

together in a mixing tank and then run into 50 gallon barrels. Two gallons of sulphur dioxide are put into the barrel to preserve the pulp and to prevent fermentation. The whole process of manufacture, from the time the fruit is washed until the pulp is put in the barrels, is carried on under the watchful eyes of Agricultural Marketing Administration inspectors, who see to it that each step is done just right.

Grapefruit and orange pulp are packed separately, but when the two products reach Great Britain they are combined in the proportions of 60 percent grapefruit and 40 percent orange pulp. Sugar — purchased by the British from Cuba and elsewhere — is added in the preserving plants and the mixture is cooked. The sulphur dioxide boils off in a hurry, leaving the marmalade ready for the jars. It is good marmalade, too, according to reports from the manufacturers.

Our shipments of marmalade pulp do not cut a very big figure when compared with evaporated milk, egg, cheese or meat exports. The real story has to do with the manner in which American industry entered an almost entirely new field, grappled with a number of intricate problems, and finally delivered the goods.

### CONTROL OF SHADE

#### TREE INSECTS

(Continued from page 5)

stand or allowed to lie on the ground after being cut down and not cut up, or if cut and piled in the shade, it will dry out slowly and conditions will remain longer favorable for the development of these borers. The presence of the borers can usually be detected by the sap issuing from the wound they make, or piles of saw dust will accumulate around the entrance to the burrow or around the base of the tree.

Young trees recently transplanted should have their trunks protected from the direct rays of the sun, particularly the noon-day sun. Standing a board upright on the side of the tree will accomplish this purpose, or one may drape Spanish moss or other material around the trunk of the tree.

To sum up then, the first protection of shade trees from borers is by good care to keep the trees in a healthy growth condition. Secondly, any trees which, because of accident or neglect, have been killed by these borers or are obviously dying, should

be promptly cut down and cut into fire wood, which should be piled in the sun, not in a shady place. Thirdly, if the borers are discovered before they have done too much damage, painting with whitewash will sometimes save the tree.

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## Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

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